What is claimed is:

1. An apparatus for controlling execute-in-place (XIP) in a serial flash, comprising:

a cache module for accessing a designated memory address of the serial flash in response to a command received from a main control unit through a system interface unit, and reading or writing data required by the main control unit in a read or write operation;

a serial flash controller with a boot loader for allowing system booting to be performed by reading boot codes written on the serial flash, storing the boot codes in a buffer and immediately transmitting the boot codes to the main control unit when the main control unit requires the boot codes; and

a flash interface unit for handling transmission and reception of data among the cache module, the serial flash controller and the serial flash.

2. The apparatus as claimed in claim 1, wherein the cache module comprises:

a cache controller that if the read operation is required by the main control unit, accesses the serial flash, reads a page to which the designated memory address belongs, and transmits data in the read page corresponding to the designated memory address to the main control unit;

a tag-storing unit on which storage information on the read page is written in response to an operation control of the cache controller; and

a data-storing unit on which the read page is written.

3. The apparatus as claimed in claim 1, wherein the cache controller further includes a function of extracting relevant data from the data-storing unit and transmitting the extracted data to the main control unit if the page including the designated memory address is written on the tag-storing unit, by referring to the tag-storing unit and the data-storing unit upon performing the read operation.

4. The apparatus as claimed in claim 1, wherein the serial flash controller further comprises a prefetch for reading beforehand data expected to be required by the main control unit from the serial flash, storing the data in the buffer and immediately providing the data to the main control unit when the main control unit requires the data.

5. The apparatus as claimed in claim 1, wherein the data-storing unit and the tag-storing unit are SRAM.

6. A flash memory chip having an apparatus for controlling execute-in-place (XIP) in a serial flash, the apparatus comprising:

a serial-cell type serial flash; and

a controller for accessing the serial flash, and directly providing boot codes for system booting which are stored beforehand in a buffer, or reading or writing relevant data by accessing a designated memory address, in response to an operation required by a main control unit of a system.

7. The flash memory chip as claimed in claim 6, wherein the controller comprises:

a cache module for accessing the designated memory address of the serial flash in response to a command received from the main control unit through a system interface unit, and reading or writing data required by the main control unit;

a serial flash controller with a boot loader for allowing the system booting to be performed by reading the boot codes written on the serial flash, storing the boot codes in the buffer and immediately transmitting the boot codes to the main control unit when the main control unit requires the boot codes; and

a flash interface unit for handling transmission and reception of data among the cache module, the serial flash controller and the serial flash.

8. A method for controlling execute-in-place (XIP) in a serial flash, comprising the steps of:

accessing the serial flash, reading boot codes for initial booting, and storing the boot codes in a buffer, when power is supplied to a system; and

if the boot codes are completely stored and the boot codes are required by a main control unit of the system, reading the boot codes from the buffer, transmitting them to the main control unit and processing an operation required by the main control unit.

9. The method as claimed in claim 8, wherein the step of reading the boot codes and transmitting them comprises the steps of:

receiving a boot code read command from the main control unit;

reading the boot codes stored in the buffer in response to the received boot code read command; and

transmitting the read boot codes to the main control unit.

10. The method as claimed in claim 8, further comprising the steps of:

receiving a serial flash ID read command transmitted in response to a serial flash ID read request of the main control unit;

accessing the serial flash through the cache module of the controller in response to the received serial flash ID read command; and

reading an entire page to which the serial flash ID required by the main control unit belongs from the serial flash, storing it in the buffer, and sequentially transmitting required data.

11. The method as claimed in claim 8, further comprising the steps of:

receiving a data write command together with a memory address for data transmitted in response to a predetermined data write request of the main control unit;

storing the data transmitted from the main control unit in the buffer in response to the received data write command; and

writing the data stored in the buffer on a memory address assigned by a means for mapping the serial flash.

12. The method as claimed in claim 8, further comprising the steps of:

receiving a data read command together with a memory address for data transmitted in response to a predetermined data read request of the main control unit;

searching the memory address from a tag-storing unit of the controller in response to the received read command;

if the memory address is found, extracting relevant data from a data-storing unit of the controller and transmitting the data to the main control unit; and

if the memory address is not found, accessing the serial flash, reading a page to which the memory address belongs, storing it in the buffer, extracting data at the memory address, and transmitting the data to the main control unit.

13. The method as claimed in claim 12, wherein the step of accessing the serial flash and transmitting the data required by the main control unit through the read page further comprises the step of writing storage information on the read page on the tag-storing unit and writing the read page on the data-storing unit.